Corrected Listing of the Claims:

(original)   A method for inserting a digital media advertisement in a digital multiplexed stream, the method comprising:

computing a rate profile associated with a program stream;

compressing the digital media advertisement according to the computed rate profile; and

inserting the compressed digital media advertisement in the digital multiplexed stream at an advertising opportunity in the program stream.

2. (original)   The method of claim 1, wherein the rate profile is based on a predetermined bit rate.

3. (original)   The method of claim 2, wherein the predetermined bit rate profile comprises a maximum bit rate.

4. (withdrawn) The method of claim 2, wherein the predetermined bit rate profile comprises a minimum bit rate.

5. (original)   The method of claim 2, wherein the predetermined bit rate profile comprises a start point and an end point.

6. (original) The method of claim 2, wherein the predetermined bit rate profile comprises insertion instructions.

7. (original) The method of claim 2, wherein the predetermined bit rate profile comprises a time varying profile from the start point to the end point.

8. (original) The method of claim 7, wherein the time varying profile can be modeled as a piecewise linear model.

9. (original) The method of claim 4, wherein one or more null packets are inserted such that the sum of the minimum bit rate and the one or more null packets is equal to the predetermined bit rate.

10. (original) A method of compressing digital media advertisements for insertion into a statistically multiplexed digital transmission stream containing a plurality of digital program streams with a plurality of advertising opportunities, the method comprising:

determining a first bit rate profile for a first advertising opportunity;

determining a second bit rate profile for a second advertising opportunity; and

specifying a predetermined bit rate profile for compression of a first advertisement and a second advertisement, wherein the predetermined bit rate profile provides a limit to the sum of the first bit rate profile and the second bit rate profile.

11. (original) The method of claim 10, further comprising:

compressing the digital media advertisements according to the predetermined profile; and

inserting the compressed digital media advertisements into the statistically multiplexed digital transmission stream within the first and the second advertising opportunities.

12. (original) The method of claim 10, wherein the predetermined bit rate profile specifies the instantaneous sum of the first bit rate profile and the second bit rate profile.

13. (original) The method of claim 11, wherein the predetermined bit rate profile is the total bits from the start point to the end point of both the first bit rate profile and the second bit rate profile.

14. (withdrawn) The method of claim 11, wherein the first bit rate profile is complementary with the second bit rate profile.

15. (original) The method of claim 11, wherein the first bit rate profile has a first high bit rate portion, the second bit rate profile has a second high bit rate portion, and the first high bit rate portion and the second high bit rate portion are staggered.

16. (original) A system for inserting a digital media advertisement in a digital multiplexed stream, the system comprising:

a rate profile monitor for monitoring a rate profile associated with a program stream;

a video compressor for compressing the digital media advertisement according to the rate profile associated with the program stream to create a compressed digital media advertisement; and

a digital video inserter for inserting the compressed digital media advertisement into the program stream.

17. (original) The system of claim 16, wherein the video compressor is capable of compressing the digital media advertisement at a predetermined bit rate.

18. (original) The system of claim 17, wherein the predetermined bit rate is associated with an available bit rate for an advertisement opportunity where the compressed digital media advertisement will be inserted into the program stream.

19. (original) The system of claim 16, wherein the video compressor is capable of compressing the digital media advertisement at a predetermined maximum bit rate.

20. (original) The system of claim 16, wherein the video compressor is capable of compressing the digital media advertisement at a predetermined minimum bit rate.

21. (original) The system of claim 16, wherein the video compressor is capable of compressing the digital media advertisement at a predetermined bit rate profile having a start point and an end point.

22. (original) The system of claim 16, wherein the video compressor is capable of compressing the digital media advertisement using a predetermined bit rate profile having a time varying profile from a start point to an end point.

23. (original) The system of claim 16, wherein the video compressor is capable of compressing the digital media advertisement using a predetermined bit rate profile having a piecewise linear time varying profile.

24. (original) The system of 16, wherein the video compressor is capable of inserting one or more null packets such that the sum of a minimum bit rate and the one or more null packets is equal to a predetermined bit rate.

25. (original) A system for compressing digital media advertisements and inserting the digital media advertisements into a statistically multiplexed digital transmission stream containing a plurality of digital program streams with a plurality of advertising opportunities, the system comprising:

a statistical multiplexor capable of determining a first bit rate profile for a first advertising opportunity and a second bit rate profile for a second advertising opportunity; and

an ad encoder/compressor capable of encoding and compressing a first advertisement and a second advertisement at a predetermined aggregate bit rate profile

which is less than or equal to the sum of the first bit rate profile and the second bit rate profile.

26. (original) The system of claim 25, further comprising an ad inserter capable of inserting the first and the second encoded and compressed advertisements into the statistically multiplexed digital transmission stream within the first and the second advertising opportunities.

27. (original) The system of claim 25, wherein the ad encoder/compressor encodes and compresses the first advertisement and the second advertisement at a predetermined aggregate bit rate profile which is the instantaneous sum of the first bit rate profile and the second bit rate profile.

28. (original) The system of claim 25, wherein the ad encoder/compressor encodes and compresses the first advertisement and the second advertisement at a predetermined aggregate bit rate profile which is based on the total bits from the start point to the end point of both the first bit rate profile and the second bit rate profile.

29. (withdrawn) The system of claim 25, wherein the ad encoder/compressor encodes and compresses the first advertisement at the first bit rate profile and the second advertisement at the second bit rate profile that is complementary with the first bit rate profile.

30. (withdrawn) The system of claim 25, wherein the ad encoder/compressor encodes and compresses the first advertisement at the first bit rate profile and the second advertisement at the second bit rate profile, the first bit rate profile having a first high bit rate portion and the second bit rate profile having a second high bit rate portion that is staggered with the first high bit rate portion.

31. (original) A method for inserting digital advertisements into digital program streams that are part of a statistically multiplexed digital stream, the method comprising:

defining an advertisement bit rate for an advertising opportunity in a digital program stream, wherein the digital program stream forms part of the statistically multiplexed digital stream;

compressing an advertisement to the advertisement bit rate to form a compressed advertisement; and

inserting the compressed advertisement into the digital program stream.

32. (original) The method of claim 31, wherein the advertisement bit rate specifies a maximum bit rate.

33. (withdrawn) The method of claim 31, wherein the advertisement bit rate specifies a minimum bit rate.

34. (original) The method of claim 31, wherein the advertisement bit rate includes a start point and an end point.

35. (original) The method of claim 31, wherein the advertisement bit rate has a time varying profile.

36. (original) The method of claim 31, wherein the advertisement bit rate has a piecewise linear model.

37. (original) The method of claim 31, wherein the advertisement bit rate specifies a minimum bit rate and null cells are used to insure that the minimum bit rate is achieved.

38. (original) A system for inserting compressed digital video advertisements in a statistically multiplexed digital video stream, the system comprising:

a statistical multiplexor capable of determining an available bandwidth of an advertising opportunity in a digital video program stream; and

an advertisement insertion server capable of serving an ad at a forced minimum bit rate.

39. (withdrawn) The system of claim 38, wherein the forced minimum bit rate corresponds to the available bandwidth of the advertising opportunity.

40. (original) In a statistically multiplexed digital video environment having multiple statistically multiplexed programs streams with one or more advertisement opportunities,

an advertisement insertion unit for serving advertisements to a statistical multiplexing program insertion unit wherein the advertisement insertion unit is capable of forcing an advertisement to run at a minimum bit rate therefore insuring that a minimum bit rate will be maintained for the advertisement in the statistically multiplexed program stream.

41. (original) A system for inserting compressed digital video advertisements in a statistically multiplexed digital video stream, the system comprising:

a statistical multiplex unit capable of determining an available bandwidth of an advertising opportunity in a digital video program stream; and

an advertisement insertion server capable of limiting the bandwidth of served advertisement therefore insuring that the advertisement does not exceed a maximum bit rate.

42. (original) In a statistically multiplexed digital video environment having multiple statistically multiplexed programs streams with one or more advertisement opportunities an advertisement insertion unit for serving advertisements to a statistical multiplexing program insertion unit wherein the advertisement insertion unit is capable of limiting the bit rate of a served digital video advertisement to insure that a maximum bit rate is not exceeded.

43. (original) In a statistically multiplexed digital video environment having multiple statistically multiplexed programs streams with one or more advertisement opportunities, a statistical multiplexing unit comprising:

a bandwidth monitoring utility for determining an available bandwidth for an advertisement in an advertising opportunity, wherein the bandwidth monitoring utility communicates with one or more external devices to report the available bandwidth for the advertisement; and

a program insertion subsystem for inserting the advertisement in the advertising opportunity at the available bandwidth.

44. (original) In a statistically multiplexed digital video environment having one or more statistically multiplexed program streams with one or more advertisement opportunities, an advertisement insertion server comprising:

a storage medium for storing one or more digital advertisements;

a rate control interface for receiving one or more rate control instructions; and

an insertion rate control signal generation mechanism for generating one or more insertion rate control signals from the one or more rate control instructions, wherein the rate control signals are used for controlling advertisement insertion into the one or more advertisement opportunities in the one or more statistically multiplexed program streams.